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Asa Gray.

BY CHARLES R. BARNES.

(WITH PLATE A.)

It is neither suitable nor necessary that the Gazette should eulogize him. All the world knows that he is the most eminent American botanist, all botanists know why he is thus *facile princeps*, and all who have enjoyed personal intercourse with him know how unassumingly he bears his well-merited honors, and how gentle and genial is his whole life and character. Assuming that the incidents in the life of a great man are of interest to his disciples and co-workers, the Gazette accompanies the portrait of the man with this brief sketch of his life.

Asa Gray was born in Sauquoit, Paris township, Oneida Co., N. Y., on the 18th of November, 1810. His father had been apprenticed to a tanner and currier and must have been still working at the trade when this eldest child was born, for the little house which was his home stood on the tannery premises, and had formerly been used as a shoe shop. When the boy was a few years old his parents removed to Paris Furnace—a small settlement about a smelting furnace which long ago disappeared—where his father established a tannery. Here the monotonous occupation of feeding the bark-mill and driving the old horse that turned it was assigned to the child.

His schooling began at the age of *three* years, and at six or seven he was a champion speller in the numerous "matches" that enlivened the district school. Later, he attended, for a year or two, a "select" school taught at Sauquoit by the village pastor's son, and at twelve or thereabouts he was sent to the Clinton Grammar School. Here he stayed two years. His summer vacations were spent in the hay or corn-fields, for his father had begun to buy up the land cleared by the Furnace Co. for charcoal, and to turn his attention to farming. After leaving the Clinton school he went, in October, 1825, to the academy at Fairfield, Herkimer Co., seven miles north of Little Falls, where he re-

mained a year. His father, who thought an investment in land better than one in a collegiate education for his son, persuaded him to begin at once the study of medicine. He therefore entered the "Medical College of the Western District" (located at Fairfield) in the autumn of 1826, whose courses of lectures in chemistry he had attended the year before while at the academy. The annual sessions were very short.

In the spring and summer of 1827 he studied with Dr. Priest, of Sauquoit, returning to the medical school in autumn. In that winter, 1827–8, he chanced to read the article *Botany* in Brewster's Edinburgh Encyclopædia. He was greatly interested, bought Eaton's Manual and read its pages eagerly, longing for spring. He sallied forth early, discovered a plant in bloom, brought it home and found its name in the Manual to be *Claytonia Virginica*, the species *Caroliniana* to which the plant really belonged, not being distinguished then. In the same spring he became a pupil of Dr. John F. Trowbridge, of Bridgewater, with whom he stayed three years, except during the annual sessions of the medical college. In the frequent rides about the country to visit patients he had abundant facilities for observing and collecting plants, and, besides studying out their names, he began a herbarium. In the autumn, when he returned to the medical school, he took with him a bundle of specimens which had puzzled him, hoping to get assistance from Professor Hadley. He studied Prof. Hadley's small herbarium during the winter, and by his advice opened correspondence with Dr. Lewis C. Beck, of Albany.

These botanical studies continued to occupy his leisure. In the summer of 1829 he collected largely, and in the summer of 1830 went to New York to buy medical books for Dr. Trowbridge. He took with him a package of undetermined plants and a letter of introduction to Dr. Torrey, but was disappointed by not seeing him. He left the plants, however, and in the winter received a letter from Dr. Torrey naming them, the first letter of a correspondence which lasted until Dr. Torrey's death, in 1873. Young Gray's medical course was closing. He had attended four annual courses of lectures, besides the work with his preceptors, had passed the examinations, and in the spring of 1831, six or seven months before he passed his 21st birthday, he received the degree of M. D.

In the latter part of May and June he delivered his first course of lectures on botany, Dr. Beck, who had been lecturing previously, having given up the engagement. With the money

thus earned, he made a collecting tour through western New York, going as far as Buffalo and Niagara Falls. About this time he received an appointment as teacher of chemistry, botany, geology and mineralogy in a private school for boys in Utica, controlled by a Mr. Bartlett. His first summer vacation was spent in a trip through southern New York, Pennsylvania and New Jersey, collecting plants, fossils and minerals. At Bethlehem he spent a day with Bishop Schweinitz. Arriving in New York City, in September, he met Dr. Torrey for the first time, and went with him on a collecting trip to Tom's River, N. J.

During the next summer he was employed by Dr. Torrey to collect in the "pine barrens" of New Jersey, and the regions about Little Egg Harbor, Wading River and Quaker Bridge were scoured by him. On one of his excursions he fell in with an entomologist who proved to be Major Le Conte. Many of the plants which he collected in this locality came into possession o B. D. Greene, and are to be met with in various herbaria labeled "Coll. Greene." The winter was spent at the Bartlett school, but the spring saw him on another collecting tour along the Black river. During the summer he gave a course of lectures on mineralogy and botany at Hamilton College, Clinton, N. Y., for Professor Hadley.

In the autumn he got a furlough from the Bartlett school in order that he might be Dr. Torrey's assistant in chemistry in the medical school at New York. During this winter, 1834–5 (?), he lived with Dr. Torrey, and worked all the spare time in his herbarium. At this time he issued the first century of "Gramineæ and Cyperaceæ of North America." In December, 1834, he read his first paper before the New York Lyceum of Natural History, entitled: "A Monograph of N. Am. Rhynchosporæ," and a second one, "A notice of some new, rare or otherwise interesting plants from the northern and western portions of the State of N. Y." In February or March he returned to his school work at Utica, but the summer again found him collecting plants and minerals in northeastern New York. An account of the minerals then collected forms his first contribution to the American Journal of Science.

He expected to return to New York in the fall, as Dr. Torrey's assistant, and to this end had resigned his position in the Bartlett school. But the autumn brought a letter from Dr. Torrey saying that the prospects of the school were so poor that he could not afford to employ him. Nevertheless he went to New York, assisted Torrey as he had opportunity, and issued the second century of "Gramineæ."

In the summer of 1835 he returned to his father's home with some books received from Dr. Lehmann, of Hamburg, in exchange for plants. In this summer he planned and partly wrote his "Elements of Botany," and when he returned to New York in the autumn, arranged for its publication. It appeared in May, 1836. In the fall of this year he was appointed curator of the collections of the New York Lyceum of Natural History, and in its new building he made his home. There he wrote two papers: "Remarks on the structure and affinities of the Ceratophyllaceæ" and "Melanthacearum Am. Sept. Revisio," both of which were published in 1837. As the duties of his curatorship were light, and he had time on his hands, Gray took hold of the work of making a preliminary revision of some of the orders for the Flora of North America, which had been planned by Torrey. He was at this time awaiting the sailing of the exploring expedition to the South Pacific, to which he had been appointed botanist in the summer of 1836. The departure was long delayed. When the "Wilkes Expedition" finally sailed it was with a smaller fleet and a reduced staff. In the meantime (1838) Dr. Gray was elected professor of Natural History in the just-organized University of Michigan, and when the staff of the Wilkes expedition was to be diminished he resigned in favor of the assistant botanist, Wm. Rich.

As in the year or more in which he had been working at it, Dr. Gray had accomplished so much work, Dr. Torrey invited him to become joint author of the Flora of North America. In July, 1838, the first part, and in October, 1838, the second part of this work was issued. Having gotten so far, it was necessary to consult the American collections in European herbaria. Dr. Gray therefore asked a year's leave of absence from the University of Michigan, that he might go to Europe. This was granted, and a considerable sum of money was placed in his hands by the trustees to be expended in purchasing books for the infant University.

He sailed in November, 1838, and went at once to Glasgow, where he was the guest of Dr. W. J. Hooker. In England he consulted various public and private herbaria, and met Arnott, Greville, Graham, Balfour, Boott, Bentham, Robert Brown, Bennett, Lambert, Lindley, Bauer, Ward, Menzies and others. In March, 1839, he crossed to the continent and made an extensive tour of the principal points of interest, keeping in mind always the chief object of his visit. In Paris he met Mirbel, Adrien Jussieu, Brongniart, Decaisne, Spach, A. Richard, Montague,

Gaudichaud, Delessert, Jacques Gay and Boissier; at Lyons, Seringe; at Montpelier, Delile and Dunal; at Vienna, Endlicher and Fenzl; at Munich, Martius and Zuccarini; at Geneva, the De Candolles and Reuter; at Halle, Schlechtendal; at Berlin, Klotzsch, Kunth, Link and Ehrenberg; and at Hamburg, his early correspondent, Lehmann. His letters to Dr. Torrey, which contain a complete account of his journey and doings, are still in existence.

When he returned, late in 1839, he found matters at Michigan University still in a somewhat chaotic condition, and the trustees were willing to extend his furlough. Accordingly he began earnest work on the Flora, and parts 3 and 4 were issued in June, 1840, and in the following spring the first 184 pages of vol. ii appeared.[1] In the summer of 1841 he collected in the valley of Virginia, going as far south as Grandfather and Roan Mts. in North Carolina. In January, 1842, he made his first visit to Boston, as the guest of B. D. Greene. While there he made the acquaintance of President Quincy of Harvard College, and in April the Fisher Professorship of Natural History was tendered him. This he accepted, and went to Cambridge in July. This position he holds to the present time.

At Cambridge he devoted his time to the reorganization of the botanic garden and the necessary instruction of students, giving whatever time he could command to continued study of the voluminous and important collections which poured in from all sides, especially from the government surveys of new territory and the assiduous work of individual collectors. The results of this study, of the highest importance, are embodied in various memoirs in different publications. This embarrassment of riches caused the suspension of the Flora of North America.

About the time he went to Cambridge appeared the first edition of the Botanical Text-book, of which the second volume of the *sixth* edition has just been issued. In 1848 he began the publication of the "Genera Illustrata", of which the second volume was published in 1849. In 1848 the first edition of the "Manual" appeared. When the Wilkes Expedition returned, all its material was put into his hands. The report on these collections forms a large quarto volume with an atlas of one hundred royal folio plates. It is not possible, however, to enumerate even the most important of his writings since 1842. They are scattered through the American Journal of Science (of which he

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[1] Pages 185–400 were issued in the spring of 1842, and the remainder of vol. ii in February, 1843.

became associate editor in 1853), the Annals of the N. Y. Lyceum of Natural History, the Memoirs and Proceedings of the American Academy, Hooker's Journal of Botany, the Journal of the Linnæan Society, the Smithsonian Contributions to Knowledge, the North American Review, the Bulletin of the Torrey Botanical Club, the American Naturalist, and the BOTANICAL GAZETTE.

Every one is familiar with the text-books, passing through many editions, which have made his name a household word, and which fully demonstrate that scientific truths can be popularized without being distorted or transformed into errors. Many learned societies of this country and Europe have honored themselves and him by electing him to membership and to offices of honor. For over *fifty years* he has been a member of the oldest natural history society in Europe, Academia Cæs. Leopoldino-Carolinæ Naturæ Curiosorum, from which he received, on the fiftieth anniversary of his election, a letter of congratulation.

In 1864, his offer to Harvard University of the immense and priceless herbarium which he had accumulated, on condition that a fire-proof building be erected to contain it, was accepted and the herbarium building put up. The special library attached to the herbarium, consisting of nearly 5,000 volumes, and over 3,000 pamphlets, is very largely due to his generosity.

Since 1873, at which time he retired from the work of instruction, he has devoted himself assiduously to the preparation of the Synoptical Flora of North America, a work which will represent, when complete, the greater part of the labor of a lifetime. No more earnest wish can be uttered by the American botanists whom he has served so long than that his unabated vigor may continue until he has finished this masterpiece of scholarly learning and critical acumen.

Birthday Congratulations.

UNIVERSITY OF MICHIGAN,
SECRETARY'S OFFICE, ANN ARBOR, November 16, 1885.

Professor Asa Gray, M. D., LL. D., Cambridge, Mass.:

MY DEAR SIR:

The Senate of the University of Michigan wish, as a body, to be represented among the many friends who will join in paying their respects to you on your approaching seventy-fifth birthday, and to that end has adopted a congratulatory address, of